



PATIENT
Zoey Posario

PRESENTING CLINICAL SIGNS

History: Zoey was noted to have a heart murmur in January. Good appetite and her activity level remains normal. She was rescued 6 months ago. On exam: NSR, grade IV-V/VI murmur with PMI left apical area radiating to right, PSS, lung fields clear. BP: 110mmHg x 5. *No sedation for study.

SPECIES
Canine

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.

BREED
Mix

Left ventricle: The LV diameter is borderline with increased sphericity. Adequate myocardial function. LV wall thicknesses are normal.

Left atrium: The left atrium is normal.

Mitral valve: The mitral valve is mildly thickened with trace mitral regurgitation.

SEX
Female Intact

Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.

Right ventricle: Normal right ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension.

AGE
5 years

Right atrium: Normal RA dimension.

Tricuspid valve: The tricuspid valve appears normal with no tricuspid regurgitation.

Pulmonic valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal RVOT velocity; laminar flow. Continuous flow detected with color Doppler in the distal pulmonary artery in the region of the ductus arteriosus. A PDA is visualized on 2D imaging. High velocity shunt; L-R (4.8m/s).

WEIGHT
8.69lbs

Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.

Heart rhythm: ECG reveals a sinus rhythm with an average HR of 170bpm.

INTERPRETED BY

Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

2-Dimensional Measurements

Ao diam (cm)	1.5
LA diam (cm)	1.7
LA:Ao (Swe)	1.1
IVS thickness (cm)	0.6
LVID diastole (cm)	2.9
PW thickness (cm)	0.6
LVID systole (cm)	1.8
FS (%)	38

Doppler Measurements

PV Vmax (m/s)	NM
AoV Vmax (m/s)	1.7
MR Vmax (m/s)	NM
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

IMAGING PERFORMED BY

Pamela Harrigan,
RDCS

HOSPITAL NAME

Mass Veterinary Services

REFERRING VET

Dr. Masloski

INTERPRETATION OF THE FINDINGS

The cause of the murmur is a patent ductus arteriosus (PDA). This is a congenital condition where a blood vessel present in the fetus remains open after birth. When patent, this allows blood to recirculate through the lungs inappropriately and volume overloads the left heart chambers over time. No additional issues are identified; however, the LV appears spherical which may suggest early volume overload. Fortunately, the LA is normal indicating relatively low risk for imminent complication at this time.

INVOICE
23897

If left open, the PDA has the potential to shorten lifespan, with risk for progression to CHF in the future. In a 5-year-old dog without significant left heart enlargement, it is difficult to know how this will impact lifespan going forward. Gold standard therapy includes medical support and ASAP referral for surgical closure of the vessel. This can be done interventionally or through a thoracotomy, and consultation with a local Cardiologist is recommended ASAP if sought. Success rates for the procedure are generally high and

DATE
4/27/22



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will help give the best prognosis possible. If surgical closure is declined, consider use of Pimobendan in this case, given risk for progression going forward. Discussion with the owner is advised.

SPECIES
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Going forward the patient will be at risk for progression to CHF, development of arrhythmias, PDA reversal due to development of pulmonary hypertension, exertional syncope, and/or sudden death at home.

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RECOMMENDATIONS

- Referral for surgical consultation if elected.
- If referral is declined, institute Pimobendan 0.2-0.3mg/kg PO q12h.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Mild activity restriction is advised.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.
- Anesthesia is not advised prior to referral. If declined, institute Pimobendan at least 3-5 days prior and risk remains mildly elevated. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

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PLAN

- If surgery is not an option, recommend recheck exam and echocardiogram in 6 months to screen for progression and need for additional medications, sooner if clinical signs arise (progressive cough, labored breathing, syncope, etc.).
- If surgical closure is performed, recheck as dictated by the surgical report (typically 2-3 months following closure).

IMAGING PERFORMED BY

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RDCS

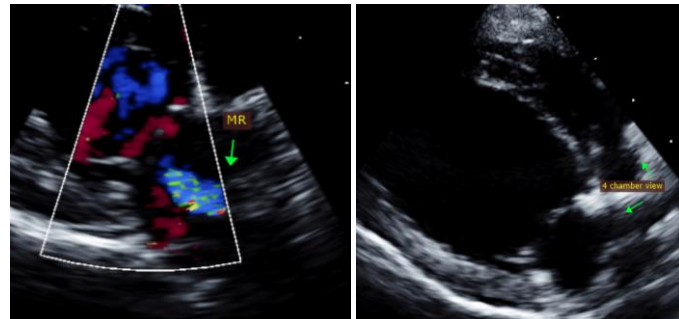
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IMAGES



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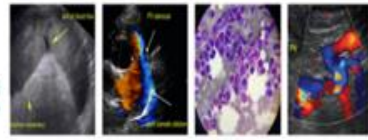
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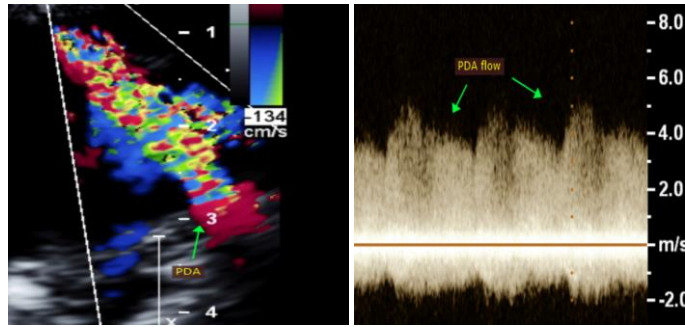
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

Maggie Machen Lamy, DVM
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Echocardiogram performed by: Pamela Harrigan, RDCS
Pet Animal Ultrasound Service (4paus.com)